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Do-young Kim

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EXAMINER

TAYLOR, JOSHUA D

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/807,266	Applicant(s) KIM ET AL.	
	Examiner JOSHUA TAYLOR	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, filed 6/18/2008, with respect to claims 1-21 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 8-13 rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. The addition of the phrase **“as a program”** does not overcome the 35 U.S.C. §101 rejection. Because applicant recites that **“[t]he recording media may also include signals transmitted by carrier waves”** in the specification, it is difficult to clarify in the claim language that the media may not include a signal. Therefore, examiner suggests that applicant cancel claims 8-13 in order to overcome the 35 U.S.C. §101 rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Robarts et al. (Pub. No.: US 2005/0278741) in view of Florin et al. (Pat. No.: 5,583,560).

Regarding claim 1, Robarts discloses **a method of displaying EPG information, the method comprising: displaying an electronic program guide (EPG) background screen having a main PIG screen (Fig. 6, paragraph [0071]), detecting the EPG information on the current channel to display in texts on the EPG background screen (Robarts, Fig. 6, paragraph [0069], lines 4-6), displaying tuned moving pictures of the current channel on the main PIG screen while sequentially detecting the EPG information for other channels (Robarts, Fig. 6, paragraph [0071], lines 1-2, 10-12), displaying the detected EPG information in texts on the EPG background screen (Robarts, Fig. 6, paragraph [0069], lines 4-6) and whenever a channel is selected among the displayed EPG information as a new current channel, tuning the new current channel and updating the main PIG screen with turned moving pictures of the new current channel (Robarts, Fig. 6, paragraph [0071], lines 10-12).** Robarts does not disclose having a plurality of PIG screen displayed in the EPG. However, in analogous art, Florin teaches **a plurality of sub PIG screens to display multi-picture-in-guide (PIG) information if an EPG mode for a current channel is requested (Figs. 33-35, column 20, lines 20-50); capturing pictures from the other channels, and displaying the captured pictures as still pictures on the sub PIG screens (column 20, lines 40-46. The pre-determined number of frames, N, could be a number such as 60, so that the picture would change every 1 seconds, at 60 frames per second.); and whenever a channel is selected among the displayed EPG information as a new current channel, updating the sub PIG screens with the captured pictures of non-selected channels and a captured picture of the previous current**

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channel (column 20, line 51 – column 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Robarts to include multiple PIG screens. This would have produced a desirable feature, as it would have allowed the viewer to access the multiple PIG screens while still viewing the EPG, thus giving the viewer more efficient access to pertinent information.

Regarding claim 2, the combined teachings of Robarts and Florin disclose **the method of claim 1**, and Florin further discloses **wherein the operation of tuning the channel and updating the main and sub PIG screen channel comprises tuning other channels not selected sequentially to update the sub PIG screens** (column 20, lines 51-67). Florin teaches that the user can update the images in the plurality of PIG screens by marking certain channels, which would mean the channels were not selected sequentially. This claim is rejected on the same grounds as claim 1.

Regarding claim 3, the combined teachings of Robarts and Florin disclose **the method of claim 1**, and Robarts further discloses **wherein the operation of tuning the channel and updating the main and sub PIG screen channels comprises tuning a channel indicated by a cursor to display moving pictures of the channel on the main PIG screen** (Fig. 6, element 186. Robarts indicates the channel with a focus frame rather than a cursor, but it would have been obvious to use either one of these, as they both perform the same function). This claim is rejected on the same grounds as claim 1.

Regarding claim 4, the combined teachings of Robarts and Florin disclose **the method of claim 1**, and Robarts further discloses **wherein the operation of detecting EPG information**

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on the current channel comprises: detecting the EPG information for the current channel, displaying the EPG information for the current channel on the EPG background screen (Fig. 6, element 188, paragraph [0071], lines 1-8), **and displaying video signals of the current channel on the main PIG screen presented in the EPG background screen** (Fig. 6, element 190, paragraph [0071], lines 10-12). Robarts does not disclose having a plurality of PIG screen displayed in the EPG. However, in analogous art, Florin teaches **tuning other channels sequentially from a channel map in which a plurality of the other channels is stored** (column 20, lines 61-65), **detecting EPG information of the tuned other channels, capturing pictures of the tuned other channels** (column 20, lines 40-46), **displaying the detected EPG information in texts on the EPG background screen, and displaying the captured pictures in still pictures on the sub PIG screen** (column 20, lines 40-46. The pre-determined number of frames, N, could be a number such as 60, so that the picture would change every 1 seconds, at 60 frames per second.). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Robarts to include multiple PIG screens displaying channels chosen sequentially from a channel map. This would have produced a desirable feature, as it would have allowed the viewer to use the multiple PIG screens to view channels as they normally appear in the program guide, thus giving the viewer more efficient access to pertinent information.

Regarding claim 5, Robarts discloses **a digital broadcast receiving system which receives transport streams with electronic program guide (EPG) information** (Fig. 5, paragraph [0051]), **the digital broadcast receiving system comprising: a multi tuner which tunes each broadcast signal of channels in the form of the transport streams** (Fig. 5,

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paragraph [0051]); **a de-multiplexer which de-multiplexes the tuned broadcast signal into a video, an audio and the EPG information** (Fig. 5, paragraph [0051]); **an image processor which performs image processing on the de-multiplexed broadcast signal from the de-multiplexer** (Fig. 5, element 102); **and a program information screen in the form of a table, using the EPG information** (Fig. 6); **a display unit which displays video signals output from the image processor and the PIG processor** (Fig. 5, element 124); **and a controller which controls in an EPG mode video signals of a selected channel of the program information screen to be displayed on the main PIG screen** (Fig. 6, element 190, paragraph [0071], lines 1-8). Robarts does not disclose having a plurality of PIG screen displayed in the EPG. However, in analogous art, Florin teaches **a picture-in-guide (PIG) processor which constructs a multi PIG screen having a main PIG screen and a plurality of sub PIG screens** (Figs. 33-35, column 20, lines 20-50), **and a controller which controls still pictures of non-selected channels of the program information screen to be displayed on the sub PIG screens, and updates information on the main PIG screen with video signals of the selected channel and information on the sub PIG screens with the video signal of the non-selected channels of the program information screen by a channel selection from the EPG information displayed in the display unit** (Figs. 33-35, column 20, line 51 – column 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Robarts to include multiple PIG screens. This would have produced a desirable feature, as it would have allowed the viewer to access the multiple PIG screens while still viewing the EPG, thus giving the viewer more efficient access to pertinent information.

Regarding claim 6, the combined teachings of Robarts and Florin disclose **the system of claim 5**, and Robarts discloses **further comprising a key input unit which allows a user to select the EPG mode and a desired channel from the displayed EPG information as the selected channel** (paragraph [0070], lines 5-7). This claim is rejected on the same grounds as claim 5.

Regarding claim 7, the combined teachings of Robarts and Florin disclose **the system of claim 5**, and Robarts discloses **further comprising a memory which stores the EPG information and the still pictures from the controller** (Fig. 5, element 104). This claim is rejected on the same grounds as claim 5.

Regarding claim 8, Robarts discloses **a recording medium encoded with codes readable as a program by a computer to implement a method of generating (EPG) information to be displayed in an EPG background screen in an EPG mode in a display apparatus** (Fig. 6, paragraph [0068]), **the method comprising: forming a main PIG screen on the EPG background screen to display a moving picture of a first channel** (fig. 6, element 190, , paragraph [0071], lines 1-8); **forming a sub screen on the EPG background screen to display channel information of the EPG information in text** (Fig. 6, element 188, paragraph [0071], lines 8-10), **and selecting the second channel for the main PIG screen from the displayed EPG information** (Fig. 6, element 186, paragraph [0070] and [0071], lines 1-5). **tuning the selected second channel and updating the main PIG screen with a moving picture of the second channel and the sub PIG screens with a moving picture of the first channel**. Robarts does not disclose wherein the EPG is a multi-PIG screen displaying a plurality of PIG screens. However, in analogous art, Florin teaches **forming a sub PIG screen on the**

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multi-PIG screen of the EPG background screen to display a still picture of a second channel (Figs. 33-35, column 21, lines 1-17). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Robarts to include multiple PIG screens which rotated programs between the main and sub PIG screens. This would have produced a desirable feature, as it would have allowed the viewer to access multiple PIG screens, and move a program from a small display to a larger display if that program caught the user's interest, without losing the first program from the PIG display, and to be able to do this while still viewing the EPG, thus giving the viewer more efficient access to pertinent information.

Regarding claim 9, the combined teachings of Robarts and Florin disclose **the recording medium of claim 8**, and Florin discloses **wherein the method further comprises generating the moving picture of the first channel and the still picture of the second channel to be displayed in the main PIG screen and the sub PIG screen of the multi-PIG screen, respectively** (column 20, lines 40-46). This claim is rejected on the same grounds as claim 8.

Regarding claim 10, the combined teachings of Robarts and Florin disclose **the recording medium of claim 8**, and Robarts discloses **wherein the method further comprises generating channel information of the EPG information to be displayed in the sub-screen of the EPG background screen** (Fig. 6, paragraph [0069], lines 1-6).

Regarding claim 11, the combined teachings of Robarts and Florin disclose **the recording medium of claim 8**, and Robarts further discloses **wherein the channel information includes information about the first and second channel and other channels** (Fig. 6, paragraph [0069], lines 4-14).

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Regarding claim 12, the combined teachings of Robarts and Florin disclose **the recording medium of claim 8**, and Robarts discloses **wherein the method further comprises generating a cursor to be displayed on the EPG background screen to allow a user to select one of the second channel and another channel displayed on the sub PIG screen and the sub screen, respectively** (Robarts, Fig. 6, paragraph [0068], lines 4-6). Figure 6 shows that when a region is highlighted, the preview window will show a clip related to that region. Using a cursor to select the region is an obvious variant. Therefore, this claim is rejected on the same grounds as claim 8.

Regarding claim 13, the combined teachings of Robarts and Florin disclose **the recording medium of claim 8**, and Florin discloses **wherein the method further comprises: generating the moving picture corresponding to the selected one of the second channel and another channel to be displayed in the main PIG screen; and generating the still picture corresponding other channel than the second channel to be displayed in the sub PIG screen** (column 20, lines 40-46. Florin discloses 12 sub-screens.). This claim is rejected on the same grounds as claim 8.

Regarding claim 14, Robarts discloses **a method of generating (EPG) information to be displayed on an EPG background screen in an EPG mode in a display apparatus** (Fig. 6, elements 174 and 184, paragraph [0068]), **the method comprising: forming a main PIG screen on the EPG background screen to display a moving picture of a first channel** (Fig. 6, element 190, , paragraph [0071], lines 1-8); **forming a sub screen on the multi-PIG screen to display channel information of the EPG information in text** (Fig. 6, element 188, paragraph [0071], lines 8-10). Robarts does not disclose wherein the EPG is a multi-PIG screen displaying

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a plurality of PIG screens. However, in analogous art, Florin teaches **forming a sub PIG screen on the multi-PIG screen to display a still picture of a second channel** (column 20, lines 40-46. The pre-determined number of frames, N, could be a number such as 60, so that the picture would change every 1 seconds, at 60 frames per second.); **and selecting the second channel for the main PIG screen from the displayed EPG information, tuning the selected second channel and updating the main PIG screen with a moving picture of the second channel and the sub PIG screens with a moving picture of the first channel** (Figs. 33-35, column 21, lines 1-17). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Robarts to include multiple PIG screens which rotated programs between the main and sub PIG screens. This would have produced a desirable feature, as it would have allowed the viewer to access multiple PIG screens, and move a program from a small display to a larger display if that program caught the user's interest, without losing the first program from the PIG display, and to be able to do this while still viewing the EPG, thus giving the viewer more efficient access to pertinent information.

Regarding claim 15, the combined teachings of Robarts and Florin disclose **the method of clam 14**, and Robarts discloses **generating channel information of the EPG information to be displayed in the sub-screen of the EPG background screen** (Fig. 6, paragraph [0068]).

Florin discloses **further comprising: generating the moving picture of the first channel and the still picture of the second channel to be displayed in the main PIG screen and the sub PIG screen of the multi-PIG screen, respectively** (column 20, lines 40-46). This claim is rejected on the same grounds as claim 14.

Regarding claim 16, the combined teachings of Robarts and Florin disclose **the method of claim 14**, and Robarts discloses **further comprising: generating a cursor to be displayed on the EPG background screen to allow a user to select one of the second channel and another channel displayed on the sub PIG screen and the sub screen, respectively** (Robarts, Fig. 6, paragraph [0068], lines 4-6). Figure 6 shows that when a region is highlighted, the preview window will show a clip related to that region. Using a cursor to select the region is an obvious variant. Therefore, this claim is rejected on the same grounds as claim 14.

Regarding claim 17, the combined teachings of Robarts and Florin disclose **the method of claim 14**, and Robarts discloses **further comprising: generating channel information of the EPG information to be displayed in the sub-screen of the EPG background screen** (Fig. 6, elements 174 and 184, paragraph [0068]). Florin discloses **generating the moving picture corresponding to the selected one of the second channel and another channel to be displayed in the main PIG screen; and generating the still picture corresponding other channel than the second channel to be displayed in the sub PIG screen** (column 20, lines 40-46. Florin discloses 12 sub-screens.). This claim is rejected on the same grounds as claim 14.

Regarding claim 18, Robarts discloses **an apparatus to generate (EPG) information to be displayed on an EPG background screen in an EPG mode in a display apparatus** (Fig. 6, elements 174 and 184, paragraph [0068]), **comprising: a PIG processor to form a main PIG screen of the EPG background screen to display a moving picture of a first channel** (Fig. 6, element 190, , paragraph [0071], lines 1-8), **and a sub screen on the EPG background screen to display channel information of the EPG information in text** (Fig. 6, element 188, paragraph [0071], lines 8-10). Robarts does not disclose wherein the EPG is a multi-PIG screen

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displaying a plurality of PIG screens. However, in analogous art, Florin teaches **a sub PIG screen on the multi-PIG screen of the EPG background screen to display a still picture of a second channel** (column 20, lines 40-46. The pre-determined number of frames, N, could be a number such as 60, so that the picture would change every 1 seconds, at 60 frames per second.), **and to select the second channel for the main PIG screen from the displayed EPG information, to tune the selected second channel and to update the main PIG screen with a moving picture of the second channel and the sub PIG screens with a moving picture of the first channel** (Figs. 33-35, column 21, lines 1-17). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Robarts to include multiple PIG screens which rotated programs between the main and sub PIG screens. This would have produced a desirable feature, as it would have allowed the viewer to access multiple PIG screens, and move a program from a small display to a larger display if that program caught the user's interest, without losing the first program from the PIG display, and to be able to do this while still viewing the EPG, thus giving the viewer more efficient access to pertinent information.

Regarding claim 19, the combined teachings of Robarts and Florin disclose **the apparatus of claim 18**, and Robarts discloses **further comprising: a demultiplexer to generate the moving picture of the first channel** (Fig. 5, paragraph [0051]) **and to generate channel information of the EPG information to be displayed in the sub-screen of the EPG background screen** (Fig. 6, elements 174 and 184, paragraph [0068]). Florin discloses **generating the still picture of the second channel to be displayed in the main PIG screen and the sub PIG screen of the multi-PIG screen, respectively** (Figs. 33-35, column 21, lines 1-17). This claim is rejected on the same grounds as claim 18.

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Regarding claim 20, the combined teachings of Robarts and Florin disclose **the apparatus of claim 19**, and Robarts discloses **further comprising: a controller to generate a cursor to be displayed on the EPG background screen to allow a user to select one of the second channel and another channel displayed in the sub PIG screen and the sub screen, respectively** (Robarts, Fig. 6, element 186, paragraph [0068], lines 4-6). Figure 6 shows that when a region is highlighted, the preview window will show a clip related to that region. Using a cursor to select the region is an obvious variant. Therefore, this claim is rejected on the same grounds as claim 18.

Regarding claim 21, the combined teachings of Robarts and Florin disclose **the apparatus of claim 20**, and Robarts discloses **further comprising: a controller to control the PIG processor and the demultiplexer to generate channel information of the EPG information to be displayed in the sub-screen of the EPG background screen** (Fig. 6, elements 174 and 184, paragraph [0068]). Florin discloses **generating the moving picture corresponding to the selected one of the second channel and another channel to be displayed in the main PIG screen, and generating the still picture corresponding other channel than the second channel to be displayed in the sub PIG screen** (column 20, lines 40-46. Florin discloses 12 sub-screens.). This claim is rejected on the same grounds as claim 18.

Regarding claim 22, Robarts discloses **a method of displaying EPG information, the method comprising: displaying an EPG screen having a channel map with a plurality of channels** (Fig. 6, elements 174 and 184, paragraph [0068]), **a main PIG screen to display a moving picture of one of the channels of the channel map** (Fig. 6, element 190, paragraph [0071], lines 1-8). Robarts does not disclose having a plurality of PIG screen displayed in the

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EPG. However, in analogous art, Florin teaches **a plurality of sub PIG screens to display still pictures of other ones of the channel map** (column 20, lines 40-46. The pre-determined number of frames, N, could be a number such as 60, so that the picture would change every 1 seconds, at 60 frames per second.); **and selecting one of the other ones of the channel map** (column 21, lines 1-7); **and replacing the main PIG screen with a moving picture of the selected one of the other ones of the channel map, and the sub PIG screen with the still pictures of the one of the channels and the other ones of the channel map except the selected one of the other ones of the channel map accordingly the selection of the one of the other ones of the channel map** (Figs. 33-35, column 21, lines 1-17). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Robarts to include multiple PIG screens which rotated programs between the main and sub PIG screens. This would have produced a desirable feature, as it would have allowed the viewer to access multiple PIG screens, and move a program from a small display to a larger display if that program caught the user's interest, without losing the first program from the PIG display, and to be able to do this while still viewing the EPG, thus giving the viewer more efficient access to pertinent information.

Conclusion

Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA TAYLOR whose telephone number is (571)270-3755. The examiner can normally be reached on 8am-5pm, M-F, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Josh Taylor/

Examiner, Art Unit 2623

/Vivek Srivastava/

Supervisory Patent Examiner, Art Unit 2623